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University of Alberta

Dual Diagnosis: Mental Illness and Substance Use

by

Margaret Jackie Comeau



A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfillment

of the requirements for the degree of Masters of Education

in

Special Education

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Faculty of Graduate Studies and Research

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled DUAL DIAGNOSIS: MENTAL ILLNESS AND SUBSTANCE USE submitted by Margaret Jackie Comeau in partial fulfillment of the requirements for the degree of MASTERS OF EDUCATION in SPECIAL EDUCATION.

*For my mother and late father-
For teaching me the value
of hard work.*

*For Darrell-
For believing I can
do anything.*

*For Marya-
For challenging me and
pointing me in the right direction .*

Abstract

The purpose of this study was to monitor dual diagnosis clients after discharge from a dual diagnosis program. Sixty-two clients completed a battery of four self-inventories at the time of admission, and just prior to discharge. Sixteen participants completed the same self-inventories four to six weeks after discharge. The inventories were used to establish if there was a reported change in 1) emotional status and 2) behavioral functioning level from the time of admission to the time of discharge; and if there was a reported change in 3) emotional status and 4) behavioral functioning level at the time of discharge compared to after discharge. The inventories used were 1) The Beck Depression Inventory-II; 2) Symptoms Checklist-90-Revised; 3) Quality of Life Inventory; and 4) State-Trait Anxiety Inventory. The results reflect an improvement in clients' emotional status and behavioral functioning level from admission to discharge and sustained functioning after discharge, thus suggesting that the treatment received in the program was effective.

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TABLE OF CONTENTS

Contents	Page
Chapter One	1
Introduction.....	1
Subsequent Chapters	4
Chapter Two	6
Review of Literature	6
Definitions	8
Background Information	9
Aftercare	18
Reported Reasons for Using Chemical Substances	19
Factors That Affect Substance Use	22
Treatment and Proposed Models of Treatment.....	24
Limitations with Existing Programs	34
Summary.....	38
Research Questions	41
Chapter Three	43
Method and Procedure	43
Setting.....	43
Study Design and Participants	44
Description of Self-Inventories Used	48
State-Trait Anxiety Inventory	48
Beck Depression Inventory-II	50

Quality of Life Inventory.....	50
Symptom Checklist-90-Revised.....	52
Sample Demographics	54
Statistical Procedures/Analysis.....	54
Chapter Four	56
Results	56
Tests of Hypotheses	56
Chapter Five	61
Discussion and Conclusions	61
Summary of Findings	63
Limitations and Implications	65
Conclusions	66
References	68
Appendix A- Definitions and Criteria	79
Appendix B- Informed Consent Form.....	82
Appendix C- Release of Information for the Purpose of Research.....	83
Appendix D- Questionnaire	84
Appendix E- Cover Letter (Participants contacted in person)	85
Appendix F- Cover Letter (Participants contacted by telephone)	86

LIST OF TABLES

<i>Table</i>	<i>Page</i>
1	Summary of number of individuals contacted and numbers of packages of data returned and analyzed... ..47
2	Reported differences in emotional status and behavioral functioning (admission to discharge)... ..57
3	Reported differences in emotional status and behavioral functioning (discharge to post-discharge)... ..59

CHAPTER ONE

Introduction

Use of chemical compounds to alter mental states is not a new behavior, it can be found in the histories of all societies. Throughout history, treatments for persons suffering from mental illnesses have varied. The Egyptians, for example, treated mental illnesses in a theological framework as opposed to a medical model. Many societies felt it was an act of mercy when an individual with depression or mania was burned at the stake. Sets of symptoms now diagnosed as schizophrenia have been reported for many years. Greek physicians in the fourth and fifth centuries B.C. differentiated between the labels of mania, melancholia and dementia (Restak, 1988; Rowe, 1989). During the Renaissance period, mood disorders were recognized to have natural causes. Unfortunately humane treatment for these and other mental disorders did not begin until much later (Restak, 1988).

Tremendous challenges in understanding and treating the combination of substance use and mental health problems within one individual quickly resulted in the division of treatment for each individual problem. Mental health problems, typically defined by psychiatry, were treated in hospital or clinic-based settings. Substance use problems, in particular alcohol, have been treated in specialized non-psychiatric settings (Hood, Mangham, & McGuire, 1996). Substance use, and its connection to and impact on mental illness continue to be a major concern for health professionals. The links between suicide, depression, alcohol and other substances is a widely recognized problem. Mental disorders including depression, schizophrenia, anxiety and personality disorders have been associated with substance use (Rowe, 1989). The extent of substance use as a causal

agent for mental disorder has been a source of debate for many years and continues to be debated today. Regardless of whether substance use is a predisposing or a precipitating factor, the need for treatment is an ongoing challenge.

Medical illnesses, mental retardation, or substance abuse often complicates mental illnesses. The most common and clinically significant is co-occurring substance use disorder (Minkoff & Drake, 1991). Although co-morbidity and dual diagnosis are common terms in psychiatry, they are not usually linked with substance abuse and mental disorder. Dual disorder is not a new concept. Despite this, however there are relatively few well-established programs to address this problem. Substance abusers are currently recognized to be at risk for mental health problems and may have diagnosable symptoms that predispose, reinforce, or result from that substance abuse. On the other hand, people with a diagnosable mental disorder or even milder mental health problems are at risk or may already experience substance use problems (Drake, Osher, & Bartels, 1996).

A review of the literature strongly suggests those persons with bipolar disorder, antisocial personality and schizophrenia are most at risk for substance use problems (Robins & Regier, 1991). The rationale for using chemical substances may include self-medication and/or because of unsatisfactory life experiences (Dixon, Haas, Weiden, Sweeney, & Frances, 1990; Havassy & Arns, 1998; Khantzian, 1985). Symptoms of mental illness may be difficult to separate from symptoms of intoxication, dependence and withdrawal from drugs, particularly alcohol. Because the occurrence of dual disorders is high among those already identified with psychiatric disorders, special attention is needed.

Current literature suggests the dually diagnosed population is challenging to treat. The research clearly indicates that traditional programs are designed to address the needs of either substance abuse or psychiatric symptoms; but not both. One of the criteria of admission into a traditional substance abuse programs is that clients need to be free of any substances that could alter their mood. Unfortunately medications to treat and/or control psychiatric symptoms are considered to be “mood-altering substances”. As a result, individuals with a mental illness are often ineligible to participate in substance abuse treatment programs. Similarly, the substance abuse client who is admitted to a psychiatric program receives treatment for the psychiatric symptoms, but the substance abuse is not addressed.

Similar characteristics between mental health issues addressed within a substance abuse treatment program, and vice-versa, is significant. Problematic substance use is often associated with numerous mental health problems. Anxiety, mood disorders and even psychotic episodes may be linked with some substance use related experiences. The concept of dual disorders suggests two distinct problems in one person. Professionals in the health care field and in the substance abuse field must be aware that they are treating an individual with two disorders and must avoid the trap of separating the issues of substance use and mental health problems. There is always the fear that in attempting to separate the two disorders that only one disorder may be treated. The client often sees only one problem, and will usually seek help only for the most pressing issue. Therefore, responsibility lies with service providers in educating clients as to how mental health problems are exacerbated by substance use, or vice versa (Hood et al., 1996).

Drake (1998) described concurrent disorder as a condition in which a person has both a mental illness and a substance use problem. Another term is co-morbidity, and in the United States, the expressions “dual diagnosis”, “co-occurring disorder”, “dual disorder”, or “mentally ill chemical abuser” are used.

The purpose of this study was to examine the behavioral functioning and emotional status of individuals who had completed a dual diagnosis treatment program designed for individuals with a mental illness and substance disorder. Data were collected during the three time periods: at the time of admission (stage I), at the time of discharge (stage II), and again four to six weeks after discharge (stage III). The dual diagnosis program was designed to provide treatment for a client’s substance disorder, along with the recognition of and appropriate treatment of concurrent psychiatric symptoms. The primary researcher was also interested in determining if there was a difference in the circumstances of participants who reported sustained emotional status and behavioral functioning level after being discharged compared to those who did not report sustained emotional status and behavioral functioning level after discharge.

Two factors affecting service providers’ abilities to monitor or follow-up with clients after discharge are (a) the lack of financial resources, and (b) the transient nature of this population. It is hopeful that this study may provide useful information that will be beneficial to both this specific program as well as similar programs.

Subsequent Chapters

Chapter Two focuses on an extensive literature review of the treatment of persons who have been diagnosed with a concurrent disorder of mental illness and substance

abuse or dependency, and the efficacy of treatment programs. Chapter Three outlines the methodology, and in Chapter Four the results are reviewed. These results are discussed in Chapter Five.

CHAPTER TWO

Review of Literature

The need to provide treatment and service for a population diagnosed with both mental illness and substance use disorder is a continuous struggle in the health field. This, however, is not a new problem or challenge, but rather one that has been evident for many years. The challenge remains in how programs and agencies can provide treatment that will result in long-term benefits to the client with a dual diagnosis. This review will examine the research pertaining to the needs of the dually diagnosed client, the reported reasons for using substances, models of treatment, limitations with current treatment, and the results of relevant studies with dually diagnosed clients.

According to Soyka (as cited in Johnson, 1997) until the 1980s, research on the relationship between mental illness and substance use mainly focused on the difficulties of identifying which disorder was primary in people presenting with symptoms of both. Recently, the question has mainly given way to a realistic acceptance that, whatever the reasons for the co-occurrence of the two disorders, many individuals meet the criteria for both a primary diagnosis of a mental illness and for a primary substance use diagnosis, and need treatment for both problems (Johnson, 1997).

Some of the literature indicates that the growing body of work and the sudden interest in the combination of substance disorders and mental illness is due to the realization that the overlap between the two is not at all clear (Farrell et al., 1998). Rosenheck (1995) suggested that persons who suffer from both mental illness and substance use disorders have been the focus of increasing attention and concern in recent years, both because they are seen in clinical practice more frequently than ever before,

and because they are especially difficult to treat. Greenfield, Weiss, and Tohen (1995) reported that dually diagnosed clients are hard to properly diagnose, are likely to need treatments that stress both support and confrontation, and need services that are normally provided in different segments of the health care system. Greenfield et al. (1995) suggested that the fundamental challenge in the treatment of these patients is building their motivation and sustaining their involvement in a long-term process of healing and self-discipline. Co-occurring psychiatric and substance use disorders often seriously exacerbate one another and can undermine all traditional efforts to develop an integrated approach (Rosenheck, 1995). Previous studies have suggested that the presence of substance abuse in a chronic mentally ill client directly counters the beneficial effects of antipsychotic medication and psychiatric rehabilitation. Early attrition from substance abuse programs appears to be an important factor in the often-unsuccessful treatment of individuals with substance use and mental illness (Drake, 1996).

A review of the early 1980's literature, indicates that service providers and researchers began to recognize a group of young persons with severe mental illness-labeled 'young chronic' clients. These 'young chronic' clients were characterized by their disruptive behavior, lack of institutional experience, and management problems in the community (Bachrach, 1982; Pepper, Kirshner, & Ryglewicz, 1981). These clients did not fit into the mental health programs offered in the community, and substance use was often associated with their difficult behaviors. By the mid-1980s, service providers and researchers realized that this group of 'young chronic' clients' use of substances was more than a manifestation of their mental illness. It was an additional disorder in itself,

possibly facilitated by the availability of substances in the community. Thus, the concept of co-occurring, or dual diagnosis, was established (Ridgely, Osher, & Talbott, 1987).

With the conceptualization of “dual-diagnosis” came the realization of the difficulty in treating dually diagnosed clients within current treatment systems. To address this poor fit between dually diagnosed clients and the existing treatment systems, Ridgely et al. (1987) recommended comprehensive treatment programs that integrated mental health and substance use treatment at clinical delivery level. According to Kline, Harris, Bedout, and Drake (1991), integration offers several significant advantages. These advantages included (a) avoiding a system that typically addresses either substance use or mental illness, (b) avoiding breakdowns between separate agencies and systems, (c) taking advantage of access to clients already within the mental health system, and (d) requiring clinicians and programs, rather than clients, to make treatment compatible.

Definitions

According to Hood et al. (1996) “substance use includes the use of a range of substances including tobacco, alcohol, non-prescription or prescription drugs, illicit drugs, solvents and inhalants. This use may range from abstinence, to occasional or regular use, to frequent heavy use, to substance abuse. Drug use may be used as an alternate term” (p.44). Peele (1983) defined addiction as a person’s attachment to a sensation or an object that diminishes the appreciation of and ability to deal with other things because of an increasing dependence on the experience connected with the sensation or the object. Throughout the literature, terms of reference for substance use disorder and mental illness were consistent, and often the reference source was the

Diagnostic Statistical Manual of Mental Disorders - Third or Fourth Edition (DSM-III or DSM-IV, 1994). The DSM-IV was also the term of reference for the present study.

According to the DSM-IV (1994) substance-related disorders include disorders related to the taking of a drug of abuse (including alcohol), to the side effects of a medication, and to toxin exposure. Thus, for the purpose of this study, the term “substance abuse” refers to a wide range of disorders characterized by problematic use of drugs, alcohol, or both, as described in DSM-IV. It will not include exposure to toxins or side effects of medications. Substance dependence and substance abuse is described in the DSM-IV as a maladaptive pattern of substance use that leads to clinically significant impairment or distress, with substance abuse being the more severe (see Appendix A).

According to the DSM-IV, the definition of “mental disorder is a clinically significant behavioral or psychological syndrome or pattern that occurs in an individual and that is associated with present distress (e.g., painful symptom) or disability (i.e., impairment in one or more important areas of functioning) or with a significantly increased risk of suffering death, pain, disability, or an important loss of freedom. Whatever its original cause, it must currently be considered a manifestation of a behavioral, psychological, or biological dysfunctional of the individual”(p. xxi).

Background Information

The co-morbidity of substance use and mental illness is an interactive process of two diseases that are neuro-physiologic in nature, and that are evidenced in physiological, psychological, and behavioral patterns (Clement, Williams, & Waters, 1993). These patterns are uniquely different from those of persons with only an addiction or chronic

mental illness. For example, Goldberg, Bigelow, Weinberger, Daniel, and Kleinman (1991) found that when amphetamines were used along with neuroleptic drugs, psychotic symptoms were intensified. According to Clement et al. (1993), persons with mental illness who abuse chemical substances are at a greater risk for developing pathology of the brain, mind, and behavior. As a result, persons with a dual disorder have major deficits in their ability to form relationships, perform activities of daily living, and function effectively in society. Currently there is a lack of effective treatment approaches and facilities specifically designed for clients with a dual diagnosis of substance use and mental illness (Clement et al., 1993). In the Clement et al. research, the key aspect of treatment included addressing both pathologies in a single treatment setting that was flexible enough to shift the focus of treatment, as first one pathology and then the other predominated in the client's life. Mental illness and chemical addiction are complex medical, psychological, social, ethical, and cultural problems that reach beyond the boundaries of any one discipline. Consequently, effective intervention requires a multidisciplinary integrated approach (Clement et al., 1993).

The Epidemiologic Catchment Area (ECA) study was one of the first population surveys to document high rates of co-occurrences of mental disorders and substance use disorders (Robins et al., 1991). Almost a third (29%) of persons with any mental disorder (other than substance use disorder) had experienced a substance use disorder. Similarly, a third of persons with an alcohol disorder (37%) had experienced another mental disorder (other than substance use disorder), and half of those with other drug disorders had experienced another mental disorder (Regier et al., 1990). Rates of co-occurring substance use disorders among individuals with lifetime diagnoses of schizophrenia, bipolar

disorder, and major depression have been estimated at 47 percent, 56 percent and 27 percent, respectively (Regier et al., 1990).

Drake, McHugo, and Noordsy (1993) followed 18 schizophrenic alcoholic clients for four years in an integrated outpatient dual diagnosis program in which assertive case management assured linking the patients with substance abuse treatments. According to self-reports, after four years, 11 (61%) clients were not abusing substances. In a seven-year follow-up study of 148 patients with co-occurring disorders, Bartels, Drake, and Wallach (1995), using case-manager ratings, reported that approximately 25% of those with alcohol-use disorder and 35% of those with drug-use disorder achieved abstinence over seven years. They reported that slightly higher rates achieved remission (defined as at least 6 months of abstinence or nonproblematic use). According to Bartels et al. (1995), the rates of abstinence are comparable to the rate of abstinence achieved by alcoholics with no mental illness.

A review of the current literature indicates that substance use is increasingly recognized as a major complication and challenge in the treatment of chronic mental illness. The combination of substance use and chronic mental illness has been consistently associated with treatment difficulty and poor outcomes, and constitutes one of the greatest challenges facing the mental health system today (Drake & Wallach, 1989). Safer (1987) strongly suggested that mentally ill substance abusers have difficulty managing the practical aspects of life, maintaining stable housing and avoiding institutionalization in hospitals and jails. Johnson (1997) also indicated that substance use and dependence in the context of severe psychiatric disorder tends to result in poorer social functioning, greater psychiatric service utilization and overall poorer prognosis.

Drake and Wallach (1989) hypothesized that controlled substance abuse would lead to increased medication compliance, increased self-care, decreased hostility and aggression, decreased suicidal behavior, and increased housing stability. In their study, all 187 outpatients met the criteria of the DSM-III to be diagnosed with mental illness and 59 were diagnosed with a substance disorder. Findings by Drake and Wallace supported their hypothesis that dually diagnosed clients are more likely to have difficulties maintaining regular meals, managing their finances, maintaining stable housing, participating in regular activities, and sustaining medication compliance. The study also suggested an increased likelihood for persons with dual diagnosis to show hostility, disorganized speech, and suicidal behavior. Substance abusers were nearly twice as likely as non-abusers to be rehospitalized during the one-year follow-up period. Drake and Wallace concluded that substance abuse constitutes a major threat to the long-term adjustment of chronic mentally ill clients.

In a 1986 study in New York State, an established task force found that an average of 31 percent of general psychiatric clients across the state had a substance abuse disorder in addition to a psychiatric diagnosis (Substance Abuse Division, 1993). As a result of these findings a general psychiatric unit was converted to accommodate a 27-bed inpatient program to address the needs of clients with combined psychiatric and substance use disorders. In this particular program, staff reported that 64 percent of the hospital's general psychiatric patients had a concurrent substance abuse diagnosis and that more than 20 percent of all psychiatric patients would not have required hospitalization if not for their compounding substance use. The program director developed a program combining a behavioral model used in inpatient treatment of

chronic mentally ill clients with the peer-leadership format similar to those used in 12-step and therapeutic community programs. The average length of stay in this particular program was 30 days; clients were helped to make the transition to community-based treatment programs in the final period of their hospitalization (Substance Abuse Division, 1993). Community follow-up was also established under the direction of another physician. This article did not report results of the new program. However, this research is significant as it demonstrated the need for facilities/agencies to restructure current services to meet the needs of individuals with dual diagnoses.

Treatment for clients with dual diagnoses is challenging and difficult. Often the result is failure at therapeutic engagement and/or relapse to substance use (Onken & Blaine, 1990). Some clients can be motivated to seek help and utilize 12 step groups, therapy, medication, and other treatment resources, but many clients are treatment resistant. They may comply while being hospitalized but go back to substance use and avoid all mental health services upon discharge (Brady et al., 1996). One plausible explanation for compliance while in hospital is that hospitalization stabilizes patients, making them more amenable to treatment (Bogenschutz & Siegfried, 1998).

The type of mental illness, and severity of substance use, influences the perceptions of the illness and treatment readiness and must be considered by the clinician. Rates of substance use disorders as high as fifty percent have been observed in individuals who have a mental illness. In a study examining 187 severely mentally ill patients, Drake and Wallace (1989) reported that 30% of participants with schizophrenia and 27% of participants with bipolar disorder had a substance abuse problem. Minkoff and Drake (1991) reported that in a sample of 149 patients diagnosed with schizophrenia

disorders, 47 percent had a lifetime prevalence of alcohol abuse. Research has also provided convincing information on the harmful consequences of substance abuse in persons with severe mental illness, including a higher incidence of symptoms, poor response to treatment, lower compliance rates and poor prognosis (Drake et al., 1989; Test, Wallisch, Allness, & Ripp, 1989; Wallen & Weiner, 1989).

Depressive symptoms have been frequently found in individuals abusing alcohol, opiates, and cocaine. In the present study 87% of clients were diagnosed with major depressive disorder. Psychotic symptoms regularly accompany alcohol, cocaine, marijuana, and benzodiazepine abuse (Regier et al., 1990). RachBeisel, Dixon, and Gearon (1999) reported that persons with substance-induced mental disorders were significantly more likely than persons with primary mental illness to acknowledge a substance use problem (89% compared to 74.5%) and need for substance treatment (86% versus 63%). This study suggests that inpatient psychiatric programs must focus efforts on engaging the patient in recognizing and acknowledging substance use problems, as well as providing the next steps of education, initial treatment, and information about access to continued treatment after discharge.

According to Ridgely et al. (1987), the fields of mental health and substance use have different focal points, different philosophies and, as a result, different approaches. One common challenge that all programs encounter is the need to develop an integrated treatment philosophy that includes both mental health and substance abuse in a unified conceptual and programmatic framework, thereby permitting clinicians from both areas to collaborate effectively (Minkoff, 1989). Minkoff described an integrated treatment program in a general hospital psychiatric unit that treats both substance use and general

psychiatric patients. Minkoff used the term “dual diagnosis” to refer to clients who had both a primary mental illness and a substance abuse or substance dependence disorder. The model was implemented at a 21-bed voluntary psychiatric unit.

Although licensed as a psychiatric unit, the treatment program only had a vestigial psychiatric focus and, until 1984, functioned mainly as an Alcoholics Anonymous-orientated addiction treatment program. The focus of the program changed to be more consistent with the psychiatric component of the program. A new chief of psychiatry was hired to develop the unit’s psychiatric focus, while maintaining the already viable addiction program. For the new psychiatric program to exist simultaneously with the addiction program on one unit, it was necessary to develop an integrated treatment, which encompassed the 12-step addiction philosophy combined with standard mental health philosophy. Within the integrated model, treatment of both substance use and mental illness consisted of a combination of addiction and psychiatric models.

The disease concept in the addiction model and the illness in the psychiatric model have numerous similarities. In each model the illness or disease is an incurable, biologic mental disorder, often characterized by a chronic course with several relapses and exacerbations. Even though the symptoms may remit for long periods, the potential for relapse is usually always there (Minkoff et al., 1991). Clients may acknowledge difficulties with substance abuse/dependency or mental illness but not both. The result is typically that the untreated or unaddressed problem undermines the progress of the “treated problem” (Brady et al., 1996). Overcoming denial is the first major task of treatment.

In both the psychiatric and the addiction models, loss of control of specific facets of thinking and behavior is connected to the underlying biologic process of the disease. The lack of control in either illness becomes evident when the patient cannot regulate his thinking or behavior in the face of obvious harmful consequences, such as imprisonment, loss of job, or loss of home. In each model the patient is powerless over the reality of having the disorder. The patient can reclaim control by acknowledging the powerlessness, accepting the illness, and asking for help by actively participating in treatment. The integrated model states that the disease of addiction requires particular addiction treatment while the mental illness also requires specific psychiatric treatment, such as medications. Exclusively attempting to relieve underlying symptoms can treat neither of the two disorders. Treatment focused on addressing both disorders simultaneously is required (Drake, 1996).

The literature indicates that some clients with mental illness may use substances in a controlled way for a variety of reasons- recreation, socialization, anxiety reduction, and symptom relief. For most clients, even the controlled use of chemical substances may be unsafe or potentially harmful because of the effect of even minimal substance use on mental illness (Safer, 1987; Drake, Osher, & Wallach, 1989). The literature indicates that factors that appear to help mentally ill patients in the recovery process have been similar to factors that contribute to recovery from addiction: acceptance of the illness, compliance with treatment, using help to learn new coping skills, and willingness to actively collaborate in treatment (Harding, Brooks, Ashikaga, Strauss, & Breier, 1987). In addition, both the psychiatric and the addiction models describe a similar process of recovery, with phases of acute stabilization, engagement, prolonged stabilization

(maintenance), and rehabilitation. For both illnesses, engaging the client in ongoing treatment is essential for recovery to continue. It is not uncommon for clients who are addicted to chemicals to experience repeated cycles of detoxification and relapse. Similarly, mentally ill patients may have prolonged cycles of “revolving-door” admissions, and difficulties with medication compliance before acknowledging the need for ongoing treatment (Lamb, 1982). In the integrated model, medication and Alcohol Anonymous attendance are parallel treatments for parallel diseases.

The literature shows that the majority of studies on substance abuse and mental illnesses refer to U.S or British populations. However, Toner, Gillies, Prendergast, Cote, and Browne (1992) used the Diagnostic Interview Schedule to investigate the occurrence of substance abuse in a sample of psychiatric inpatients admitted to a general acute treatment inpatient unit. Their objective was to study the pattern of substance abuse disorders among a Canadian sample of chronic mentally ill clients. They found that almost 40 percent of chronically mentally ill clients also had a substance use disorder. This finding reflects similar rates found in the U.S and Britain.

A review of the literature revealed a clear focus on studying the use of chemical substances by the schizophrenic population. Substance abuse for a schizophrenic client highly tends to contribute to increased hospitalization, and poor treatment outcomes. Regardless of the occurrence and impact of substance use in schizophrenic clients, previous studies indicate insufficient care for this population. Necessary aspects of quality care for substance use disorders include appropriate evaluation and clinical treatment. Even when accurately diagnosed and documented, the substance use disorder

in a schizophrenic client may easily go untreated (Kirchner, Owen, Nordquist, & Fischer, 1998).

Aftercare

Co-morbidity of substance use disorders and mental illness is associated with increased severity of psychiatric symptoms (Bartels, Drake, & McHugo, 1992; Dixon, et al., 1990; Drake et al., 1989). Increased rates of psychiatric hospitalization and use of emergency services (Bartels et al., 1993), poor psychosocial adjustment (Drake et al., 1989), and unstable housing (Drake et al., 1989) are also linked with the dually diagnosed client.

Studies comparing aftercare compliance rates of different mentally ill inpatients often found that clients with substance use disorders have lower rates of compliance than groups of inpatients that do not have a substance use disorder (Wolphe, Gorton, Serota, & Sanford, 1993). The few known studies monitoring compliance among clients with both substance use disorders and a mental disorder suggests that these clients tend to comply less with aftercare than either general psychiatric clients or clients who do not have a substance use disorders (Solomon, 1987; Solomon & Gordon, 1988; Solomon & Davis, 1986).

Participation in aftercare treatment is critical to the successful management of the multiple problems faced by people with dual diagnoses (Pollack, Stuebben, Kouzekanani & Krajewski, 1998). Compliance rates with post-hospitalization programs for the treatment of major mental illnesses and substance abuse are poor (Wolpe et al., 1993). The need for new systems of care that integrate the treatment of both psychiatric and

substance use disorders is evident (Osher, 1996; Drake, Mueser, Clark, & Wallach, 1996). Integrated treatment for dual diagnosis requires one provider or team of providers to take responsibility for combining mental health and substance use interventions at the level of clinical delivery (Drake, 1996).

Research findings that could enhance the understanding of the poor aftercare compliance rates of these patients, and subsequently influence hospital and outpatient program planning, are absent in the literature. A qualitative study by Pollack et al. (1998) was conducted to learn, from the perspective of the dually diagnosed individual, what factors affect maintenance of an aftercare program. A total of 61 individuals were approached to participate in this study, and 46 (75%) gave informed consent. The participants perceived a multitude of factors that adversely affect their compliance with aftercare treatment. These identified factors included medication compliance, going to appointments, participating in sobriety activities like 12-step programs, problems with housing, transportation, childcare, finances, employment, and families. Participants also reported obstacles such as low frustration tolerance, difficulty with intrinsic motivation, and denial. Denial of the psychiatric disorder, the substance abuse, and the need for medication were recurring themes.

Reported Reasons for Using Chemical Substances

It is purposed in the literature that when some individuals with a mental illness use chemical substances that they are attempting to “self-medicate” their mental illness (Dixon et al., 1990; Drake et al., 1989, Khantzian, 1985). Whatever the etiology of substance use in the onset of mental illness (or visa versa), alcohol and drug use has been

found to hinder almost every aspect of care for individuals with chronic mental illness. For psychiatric clients, relatively small amounts of substances can result in psychological problems, decomposition, or may evolve into a clear use disorder, due to the vulnerability of the effects of psychoactive substances (Dixon et al., 1990; Drake et al., 1989).

Persons with severe mental illnesses likely experiment with alcohol or other drugs for the same reasons as do others in society. In a population with severe mental health problems, additional factors have been recognized that contribute to a high rate of substance use disorders. These include attempts to alleviate (or self-medicate) the symptoms of mental illness, the side effects of psychotropic medications, or the dysphoria associated with mental illness, and attempts to establish an identity other than that of mental patient (Minkoff et al., 1991). Some clients reported feeling less dysphoric, less anxious, and more energetic while under the influence of chemical substances. Some studies suggest that some chemicals or drugs may produce a combination of possible benefits and adverse effects. It has been observed that some schizophrenic clients treated with experimental medications (typically abused drugs) have shown reductions in depression, anxiety, and negative symptoms (Dixon, Haas, Weiden, Sweeney, & Frances, 1991).

According to Dixon et al. (1991), drug-abusing clients reported that though cannabis and alcohol decreased anxiety, cocaine tended to increase anxiety. A vast majority of the clients indicated a belief that all three of the drugs aided in reducing the symptoms of depression. Even with limited data, some clients report feeling less depressed, less anxious, and, in some cases, more energized while under the influence of chemical substances. In the study by Dixon et al. (1990), almost 75% of clients reported

that they used drugs “to get high” and to “relax”. Other noted incentives included using substances to “alleviate boredom, to increase energy, pleasure, emotions, and to talk more” (Dixon et al., 1991; Test et al., 1989). Data support the notions that (a) clients believe that substances diminish symptoms of dysphoria, anxiety, and anergia; and (b) the substances abused by clients with schizophrenia may in fact reduce such symptoms (Dixon et al., 1990). Most of the reports in the literature indicate that substance use usually results in a deterioration of psychotic symptoms in persons with schizophrenia. Schizophrenic clients who abuse alcohol or drugs are often less compliant with their medication (Drake et al., 1989). The abuse of illicit substances by persons with schizophrenia usually occurs in a social setting and, similarly, about half of alcohol abuse also occurs within a social context (Dixon et al., 1990). The lack of outpatient programs for individuals with a dual disorder has compounded the problem of dual disorders.

Individuals who use chemical substances may be admitted to psychiatric hospitals for a variety of reasons, but common reasons include delusions, hallucinations, and thought disorders. In many cases, the duration of psychosis outlasts the duration of the drug action, indicating that psychiatrically important factors such as stress, personality, and constitutional factors are involved (Bowers & Freedman, 1975). Possible effects of drug use could include psychoactive effects of drugs (individually and in combination) physical and psychosocial factors associated with drug abuse, e.g., “loss, illness, malnutrition, crisis, dwindling social network, and massive life change (Tsuang, Simpson, & Kronfol, 1982).

Factors that Affect Substance Use

According to Hood et al. (1996), there are several risk factors that may affect substance use and mental health problems. Those risks include low self-esteem, locus of control and self-efficacy. Self-efficacy and locus of control imply having a strong sense of individual power and control over one's life, and both may protect and promote well-being and be antithetical to problematic drug use. High self-esteem does not necessarily protect us from experiencing serious problems. The research suggests that people who are able to cope effectively in high-risk situations are certainly less likely to use drugs in ways that cause problems. Expectations and sensation seeking strongly influence both initial and continuing risk behavior, in particular the inappropriate use of substances. Substance use can be extremely reinforcing. When use of substances produces pleasurable feelings or stress reduction, it will probably continue, strengthening the expectation that the substance will produce pleasurable feelings. Most people expect positive results when they use a substance, such as increased social comfort and spontaneity, relaxation or playfulness (Dixon et al., 1991).

Other factors evident in the research are levels of stress and perceived stress that an individual is experiencing. This variable has received significant attention, both as a reason for substance use and as a result of mental health or substance use problems. Stress and perceived stress are difficult to quantify, but each can have a powerful influence on mental health and substance use. At one end of the spectrum, stress can trigger depression or anger, which may be directed outwardly or inwardly. At the other end of the spectrum stress may be managed without interrupting day-to-day functions. It can be sporadic or experienced daily and increasing effects of stress can produce

devastating physical and psychological distress and impact the individual's ability to function. Therefore, it is not surprising that substance users report that they are attempting to self-medicate. It may not be the stress or perceived stress that may result in a person using a substance rather the person's ability to cope with stress, which is the important factor. People possessing positive coping skills tend to have lower overall stress levels than those with poor coping skills. Research also indicates that the role of relationships or social networks and having been physically or sexually abused are important factors in determining later substance use patterns (Hood et al., 1996). These factors will not be discussed any further in this study.

After reviewing mental health and substance use literature, Hood et al. (1996) suggested two types of linkage relationships between mental illness and substance use. Because mental health problems often occur in combination with substance use problems, there tends to be an overall relationship. The literature also suggests that mental health problems can act as risk factors for substance use problems and visa versa. This kind of connection indicates that when people begin to have problems in one area, they may be affected in the other. Hood et al. (1996) also suggested that risk factors for substance problems are reduced for individuals who are able to cope or who have a sense of well being.

The second broad category of links is the presence of common risk and protective factors for both substance use and mental health problems. These factors place people at risk for either substance use or mental health problems, or both. Poverty, difficulties at school, isolation and family problems are included in this category. Additional risk

factors include psychosocial and economic vulnerabilities, genetic and biological aspects, negative attitudes, and availability of services.

Treatment and Proposed Models of Treatment

The literature identifies several important aspects of successful treatment. These include detoxification; comprehensive assessment; diagnosis with periodic review; flexible approaches to treatment; abstinence as a goal but not as a condition for treatment; open-ended and concurrent treatment for both problems; and aftercare, including case management, self-help and family involvement. Programs and service providers must be non-judgmental and accountable to clients. Services should be easily accessible and based on individual needs. The focus needs to be long-term, flexible services that promote a harm reduction approach and interventions. The literature emphasized the importance of education, support and training, focusing on individual client needs, strengthening community services and follow-up.

Research by Osher and Kofoed (1989) outlined a theoretical model for treating persons who have been diagnosed with dual disorders of mental illness and substance use. Four phases of treatment presented were: (a) engagement, (b) persuasion, (c) active or primary treatment, and (d) relapse prevention. Treatment programs that provide mental health and substance abuse interventions consecutively can result in a sort of “ping-pong therapy” that may give clients inconsistent messages and minimal chance of follow through with both treatment plans. Corresponding treatment of both disorders in separate systems faces comparable challenges. Ridgely et al. (1987) support the integration of current mental health and chemical dependency approaches when faced with treating

dually diagnosed clients. They reported that integrated approaches have demonstrated some efficacy, but ongoing attention to both disorders is required. The integrated model allows service providers to monitor several problems and assist the patient prioritize treatment goals.

Use of more than one drug or substance is continually reported in the dual-diagnosis population. Not unlike the treatment of primary substance users, the benefit of inpatient versus outpatient treatment for dually diagnosed clients is debatable (Drake et al., 1989; Ridgley et al., 1987). Dually diagnosed clients need to be attracted to treatment programs. Engagement involves convincing clients that the mental health agency or service provider has something desirable to offer to them. The next step, persuasion, is the process of convincing engaged clients to accept long-term abstinence-orientated treatment (Kofoed, 1988; Osher et al., 1989; Stark & Kane, 1985). An inpatient program can provide a great opportunity to persuade dually diagnosed clients that they need substance use treatment. Usually clients in an inpatient program have, in some way, acknowledged their need for help, are more likely to be abstinent, are already in the patient role, and have credible peers available on the unit (Osher et al., 1989). Another factor that suggests that inpatient settings are more effective is that the psychiatric disorder may be reasonably stabilized.

In the inpatient setting, group therapy that is focused on persuasion has shown moderate success in moving clients toward acceptance of substance use approaches/interventions. For clients who acknowledge the need for treatment, reassurance of ongoing support, in spite of early lapses, must be clear. Primary treatment is focused on helping clients develop the attributes and skills required to remain

abstinence, however, prolonged or continued abstinence is difficult for the dually diagnosed client. Some treatment programs lower their expectations of dually diagnosed clients. However, it is important for programs to establish an expectation of abstinence as a vital part of their therapeutic setting (Minkoff, 1996; Carey, 1996). Regardless of short-lived setbacks, high expectations for clients to end their addiction should be sustained if clients are to remain optimistic. Abstinence is not the end of the treatment process for the dually diagnosed client. Maintenance involves an ongoing connection between the client and service providers. Lapses or “slips” following abstinence are to be expected. Relapse can be a learning experience. Being aware of initial lapses and prompt support may assist in the prevention of later ones.

Along with other clinicians, Ridgely et al. (1987) and Hellerstein and Meehan, (1987) indicate that group therapy is the groundwork of active treatment approaches for the dually diagnosed client. One of the important elements proposed was a psycho-educational approach for the treatment of dually diagnosed clients within groups (Hellerstein & Meehan, 1987). Providing information while promoting a supportive peer group assists progress through the treatment phases. Common tasks in group therapy of dually diagnosed client involve understanding and accepting both the mental illness and the substance dependence and encouraging medication compliance. Even when a dually diagnosed client’s psychiatric disorder responds to medication, continued attention to the client’s medication compliance is crucial. Another area that requires monitoring is the interaction between prescribed drugs and abused psychoactive substances. Programs sometimes utilize random breathalyzer and urine drug screens to become aware of unacknowledged relapses. Such procedures support the abstinence focus of the treatment

milieu. The development of self-help groups with specific dual-diagnosis orientations has been a welcome alternative for the more severely impaired clients. The integration of substance abuse treatment into the mental health settings augments the community support that currently exists (Osher et al., 1989).

Prochaska and DiClemente (Prochaska, DiClemente, & Norcross, 1992) proposed a model of treatment for addictions change, which may be effective in treating the dually diagnosed client. The five stages in their model in part are:

1. Precontemplation- In this initial stage the client is likely still in denial of his/her problem and is typically not interested in pursuing treatment.
2. Contemplation- In the second stage the individual is willing to acknowledge the problem though usually is not ready to take the necessary steps to make the actual behavioral changes.
3. Preparation- Contemplation is taken further in this stage and planning for change takes place.
4. Action- This is the stage where external changes are observed as the person modifies his/her behavior, experiences, or environment to overcome their problems.
5. Maintenance- Lastly, maintenance involves working to prevent relapse and combine the changes made during action.

As our understanding of the link between mental health and substance abuse grows, it becomes significant to continually recognize the need to treat the two issues concurrently. Since clients appear ready to accept help for specific problems in their lives, the focus of treatment should become largely psycho educational (Brady, et al., 1996). The model

developed by Prochaska and DiClemente, in combination with the psycho-educational component, is an important element of the treatment provided in the program studied in this research project.

In the mental health system, clients with chronic mental illness are engaged in treatment for their mental illness, however the substance disorder goes untreated. Carey (1996) strongly suggested that the motivational, harm-reduction approach is an alternative to traditional “abstinence-only, zero-tolerance, 12-step approaches”. This could be used to address the needs of the person with a mental illness and who is substance dependent. According to Carey (1996), there is the possibility that traditional abstinence-oriented addiction treatment, as summarized by 12-step approaches, may be especially appropriate for those dual diagnosis clients with more severe substance dependence, who are unable to stop with less intensive motivational or harm-reduction strategies.

Carey’s rationale for proposing a five-step model was based on the premises that persons with mental disorders represent an extremely high-risk group for substance use problems and that most treatment for these co-occurring disorders takes place on an outpatient basis. This results in treatment being implemented in surroundings where substances may be easily available and various triggers for substance use continue to be present. Four assumptions of Carey’s model are that it is used in an outpatient mental-health context in which clients have contact with a primary therapist or case manager, it provides substance abuse interventions and ongoing psychiatric treatment at the same time, co-occurring disorders usually requires a combination of pharmacological

treatment, psychosocial treatments, and supportive services, and that treatment is provided on a long-term basis. The five steps in Carey's model in part are:

- 1) Establishing a working alliance, which promotes trust that encourages the client to openly talk about substance use and the role that alcohol or drugs play in the client's life.
- 2) Evaluating costs and benefits of continued substance use: This step attempts to increase motivation for reducing substance use by providing education about substances and their effects, functional analysis assessment, assessing one's goals, and cost-benefit analysis.
- 3) Individualizing goals for change: Many substance users are unwilling or unable to make a complete commitment to lifelong abstinence. The harm-reduction approach provides an alternative to traditional abstinence-oriented philosophies, and is more likely to engage persons who have difficulty with zero-tolerance. Adopting a harm-reduction viewpoint in treatment does not reject abstinence outcomes; rather, it accepts other outcomes that are attainable.
- 4) Building an environment and lifestyle supportive of abstinence: Efforts to change substance use behaviors must be accompanied by social and environmental changes that support abstinence.
- 5) Coping with stress: Substance use disorders and most mental illnesses are relapsing disorders. A vital element of relapse prevention consists of coping-skills training. Substance use has often served important coping

functions, so clients must learn to cope with substance-related triggers in new ways.

Harm reduction involves minimizing the harm associated with the use of the substance. This may include reducing consumption levels, but also implies reducing other harmful health or social consequences, such as reducing the risk of infection through needle exchange programs (Carey, 1996).

Some clinicians believe that harm reduction should take a more prominent role in treating people with concurrent disorders. Harm reduction initially attempts to minimize harm as compared to traditional treatment models that require strict abstinence. For example, the Calgary Foothills Hospital administers a treatment program that no longer requires abstinence as a pre-requisite for admission to the program. The belief in this program is that when working with people whose functional social skills have been affected by mental illness, insisting on abstinence means “you’ll never see them again”(Drake, 1998). A field test with 466 people at the general intake of an addiction treatment program found that about 34% of the clients met the criteria for different disorders, the most common of which was depression (Drake, 1998).

Another program model that is recommended for clients with severe mental disorders who have an active co-occurring substance use disorder is the Program in Assertive Community Treatment (PACT) model. Mercer-McFadden and Drake reported (as cited in Teague, Drake, & Ackerson, 1995) that dually diagnosed clients are normally either disengaged from services or likely to use inpatient or emergency services; they require assertive outreach to connect them to intensive, ongoing rehabilitative treatment. A research project in New Hampshire uses the PACT model to provide integrated

treatment for dual disorders (Teague et al., 1995). The research project included implementing general features of the PACT model-small, shared caseloads, frequent team meetings, and comprehensive, direct services provided over time, mainly in the community- and to allow clinicians to address substance use directly rather than by referral to other service agencies (Teague et al., 1995). Other features included the same clinician providing direct substance abuse treatment as well as mental health services; providing non-confrontational, behaviorally orientated treatment in the context of an abstinence-orientated stage model (Teague et al., 1995); use of groups for the stages of persuasion or active treatment (Drake, Bartels, Teague, Noordsy, & Clark, 1993; Osher et al., 1989) and a clear focus by the team on clients with dual disorders (Noordsy & Fox, 1991). The results indicated that continuous treatment teams were successfully implemented in six of the seven study sites. The authors reported that staffing support, the state's commitment to continuous treatment teams, and monthly training sessions, contributed to successful implementation of the teams across the sites.

Representatives from state mental health and alcohol drug abuse agencies have identified barriers to implementing services for persons with dual diagnoses. A few of the barriers included inadequate funding for nontraditional programming, stigma toward dually-diagnosed persons on part of the public and providers, and differences in philosophy and treatment approaches between the mental health and substance abuse fields (Onken et al., 1990). According to Hood et al. (1996), punitive attitudes have affected public policy, sometimes resulting in the desire to remove substance use and mental disorder problems from public sight. Neither area has gained sufficient public

sympathy to provide the first class service expected for the treatment of physical health problems.

Use or abuse of substances complicates diagnoses, interferes with treatment, rehabilitation, and community functioning, and appears to contribute to relapse of the illness (Alterman, Erdlen, LaPorte, & Erdlen, 1982; Group for Advancement of Psychiatry, 1987; Tsuang et al., 1982). Involving dually diagnosed individuals in substance abuse treatment is a somewhat different and more difficult process than obtaining clients' commitment to a traditional alcohol or drug treatment program (Brown, Ridgely, Pepper, Levine, & Ryglewicz, 1989). This clinically diverse and heterogeneous group places a number of new demands on the treatment system, including the need for substance recovery sensitive treatment (Brown et al., 1989).

Empirical research supports the view that multiple variables are involved, which must be addressed in treatment (Donovan, Kivlahan, & Walker, 1986). Over the last 10 years, several innovative models for treatment of dual disorders have emerged. Despite differences in approaches, programs that work with this population share some commonalities.

- 1) They combine mental health and substance abuse treatments in the same setting in a concurrent and coordinated fashion;
- 2) They involve concurrent, parallel treatments in the two systems.

According to Drake & Mercer-McFadden (1995), the superior effectiveness of integrated programs has been well demonstrated in a variety of open clinical trials. Substance use disorders (abuse and dependency) is extremely common (approximately 50%) among people with mental illness in the community mental health setting (Drake et al., 1996).

Psychoactive substances can induce or mimic almost any psychiatric syndrome, and clients who present with concurrent syndromes often have little history of being substance-free for extended periods of time (Drake et al., 1996). These authors strongly suggest that dual-diagnosis experts should provide substance use treatment in stages, over the long term.

One of the most evident obstacles in treating persons with dual diagnoses remains the difficulty of engaging the patients in treatment. Dually diagnosed clients have problems recognizing the need for help and accessing the appropriate services (Lehman, Myers, Johnson, & Dixon, 1995). Bogenschutz and Siegfried (1998) compared engagement in treatment of clients referred from outpatient programs to those referred from inpatient programs. Engagement was significantly higher for those referred by an inpatient referral. One plausible explanation was that hospitalization stabilizes patients, making them more amenable to outpatient treatment.

Substance use disorders often exacerbate adverse conditions for psychiatric clients (Muser, Bellack, & Blanchard, 1992). Barry, Fleming, Greenly, Kropp, and Widlak (1996) compared psychiatric clients who did not have substance use disorders, to those who did have concurrent disorders. Their results suggest that clients with concurrent disorders may experience more depression, be less likely to obtain aftercare services, have higher rates of rehospitalization, incarceration, and medication noncompliance, and be at a greater risk for suicide and violence. Havassy and Arns (1998) examined substance dependence disorders co-occurring with severe and persistent mental disorders in a sample of frequently hospitalized psychiatric clients. In this study, co-morbid major mental and substance dependence disorders were associated with

negative life circumstances and dissatisfaction. Substance-dependent subjects had significantly lower satisfaction ratings for living situation and personal safety than all other subjects (Havassy et al., 1998).

It should be noted that the vast data on co-morbid substance abuse has been on North Americans (mainly from the United States). It is broadly understood that rates and types of substance abuse differ throughout the world and that culture is an important determinant of the tendency to develop an addictive disorder to a particular type of substance (Westermeyer, 1986).

Limitations with Existing Programs

Many addiction programs use confrontation as a therapeutic tool; emphasizing the need for self-control and personal responsibility (Minkoff, 1991). They usually require abstinence as a precondition rather than a goal. These interventions are counterproductive with dually diagnosed clients (Drake et al., 1996). It has been posited that dually diagnosed clients need a special program that integrates aspects of both psychiatric and substance use treatment (Drake, Osher, & Wallach, 1991; Lehman, Myers, & Corty, 1989). These dual dysfunctions have coexisted for some time, but they have only recently drawn the attention of the scientific and mental health establishments. Understanding and addressing this problem will require collaboration by experts on mental illnesses and substance abuse. Integration of ideas and collaboration is necessary at all levels to develop effective treatment strategies for this population.

Dr. Kim T. Mueser of the New Hampshire-Dartmouth Psychiatric Research Center (as cited in Drake, 1998) stated that traditional methods of treating severe mental

illness and substance abuse as separate, mutually exclusive conditions is ineffective. Preferably clients with concurrent disorders should receive integrated treatment by the same clinicians. Using the Addiction Severity Index, Mueser reported that more than 50% of individuals with a severe mental illness also suffer from substance use disorder, compared to just 16% of the general population. The New Hampshire-Dartmouth Psychiatric Research Center has conducted two studies, which support integrated treatment for concurrent disorders as a more effective method of treatment. The goal of an integrated concurrent disorder program should remain the reduction or elimination of substance abuse “because it interacts with the range of other spheres of functioning, and effective programs need to address other aspects of day-to-day living”(as cited in Drake, 1998).

What may be considered successful treatment for one person may not be considered successful for another. There is no single model of treatment that works for everyone. Some reasons as to why treatment programs do not provide choice of models are due to philosophy, staff training and budget. If abstinence is the only goal of treatment and measure of success, then few persons will succeed in early treatment. For example, to stop smoking, more often than not requires several attempts. Treatment is only one of the factors that contributes to or influences outcomes. Other significant factors that need to be considered are psychosocial events and conditions before, during, and after treatment. Reducing negative outcomes or applying the harm reduction theory are most likely more realistic in assessing treatment than whether or not a person continues to use a substance (Hood et al., 1996; Carey, 1996). Hood et al. suggested that substance use falls along a continuum entailing various approaches. Promoting healthy

behaviors must include both education and policy approaches. Some research indicates that many programs are not cost effective, because most of the funding is spent on the more severe cases. Perhaps additional effort should be placed on the least difficult end of the continuum, where more people would benefit. Some researchers recommend that services should be more practical, less effort should be directed to the chronic and most severely disabled end of the continuum, since it represents only about five percent of the population. The more chronic and severe persons appear to be more resistive to treatment. For this group, more supportive programming may prove to be more cost-effective. It is important to know what approaches or interventions work or do not work with different groups. Therefore, more effort should be placed on effectively serving specific populations. Review of the literature suggests that early stages of problems tend to go untreated. Often treatment is not introduced until the symptoms are acute and consequences severe.

Compared with either mentally ill or chemically dependent clients, dually diagnosed clients demonstrate increased use of acute care services (Goldfinger, Hopkin, & Surber, 1984), increased rates of hospitalization (Safer, 1987), housing instability and homelessness (Drake et al., 1989; Koegol & Burnam, 1988), violent and criminal behavior (Safer, 1987), and suicidal behavior (Drake et al., 1989; Canton, 1981). Poor medication compliance (Drake et al., 1989) and poor response to traditional substance abuse treatment have also been associated with having dual disorders. Even in the face of these statistics, and perhaps because of, the severe affects of such co-morbidity, dually diagnosed patients are often excluded from treatment settings. Both symptom severity

and psychiatric diagnosis have been found to predict treatment response of patients with substance use disorders.

Continuity of care could be more assured if there was a commitment of stable and predictable resources to maintain the program integrity and well-trained providers. Some specialists in the field believe the ideal system would move from the inpatient-outpatient division that presently exists to a continuum of care in which client need would determine appropriate setting and clinician's work across all settings. Minkoff et al. (1991) suggested that integrated dual diagnosis case-management program is an essential factor in ensuring continuity of care. When transitions between systems occur, the result is often disruptions in service. Minkoff (1991) also identified individualized planning as a necessary component when looking at services for a person with a dual disorder. Clients have unique needs and providing identical interventions will, as a rule, lead to less than optimal outcomes. That the system of care should be cohesive is one and the same with the need for integration. The planners of future systems of care for the dual disorders must strive for a rational delivery system that is cohesive, understandable, and responsive to its clients. Identified barriers that affect treatment include: accessibility-lack of transportation, living in an area that does not have specialized programs, cultural and ethnic differences between providers and recipients of care, and the need to minimize health-care costs. Providing services to a person with a dual disorder is necessarily costly, a fact that must be appreciated and incorporated into financing strategies. Risk management must be considered so as to demonstrate that while treating persons with dual diagnosis is costly, not treating them will ultimately be more costly (Fuller, 1995).

So too, advocates for the integration of mental health and the addiction field must be hopeful about the opportunities and potential of integrated efforts (Osher, 1996).

As long as the mental health sector and substance treatment sector divide complex clinical issues into service-related areas or cause-effect relationships treatment attempts will continue to prove unsuccessful. The focus needs to be treatment of the substance abuse and psychiatric issues concomitantly. For the dually diagnosed person recovery does not happen swiftly or easily. In the recovery process clients often report that they feel worse than before they began treatment. Many are strongly tempted to abandon the challenge, and some do. Important elements that support the client during the inevitable setbacks are the strong belief in the value of maintaining close involvement and positive regard. Significant and long-term change can occur when clients seek information and help, relate to and encourage each other, and value themselves more. According to McKelvy, Kane, and Kellison (1987), clients will invest more in the therapeutic process when service clinicians' approaches are nonjudgmental. Clients' commitment and investment is obviously vital to their recovery. Experience has shown that the combined problems demand a combined response from both fields. The hope lies in the fact that many dual-diagnosis clients improve considerably when they stop abusing alcohol and other drugs (McKelvy, Kane, & Kellison, 1987).

Summary

In summarizing the literature, the need for programs that will provide treatment for the dually diagnosed client is evident. Johnson (1997) has reviewed the range of interventions possible for those with severe psychiatric disorder and substance-use

disorder and has indicated the need for further exploration and evaluation of models of intervention for dual diagnosis clients. The issue of stigma has been present throughout the development of both fields. Punitive attitudes have resulted in fewer quality resources being allocated to substance use and mental illness treatment programs and facilities than to providing care for more sympathetic conditions such as cancer or heart disease (Hood et al., 1996).

Overall research support for mental illness and substance use is extremely limited and in disproportion to the overall cost to society represented by these illnesses (Pincus & Fine, 1992). Pincus and Fine reported that research funding support for mental illness and substance use in the United States represents less than five percent of all health research dollars. However, the need to provide effective treatment remains a challenge.

The research to date suggests that dually diagnosed patients can be engaged in regular outpatient programs and stabilized without hospitalization. The limited long-term follow-up data indicate that recovery from substance abuse is achievable and that such changes are associated with progress in other areas. Integrated treatment approaches appear to be a potential means of reducing substance abuse. Although further research is needed, data suggest integrated treatment can lower hospitalization costs, reduce or eliminate substance use, and lead to other improvements in quality of life for the individual who has a dual diagnosis. Financing and organizational policies do not usually support long-term, integrated treatment. Because people with dual disorders tend to be associated with higher treatment and public costs, it is important that policy makers think about how financing and organizational reform will affect their treatment outcomes in the long-term (Hood et al., 1996). Those who work with this population group need time

to test theories and treatment modalities and to establish clinical trials to determine optimal interventions and possible preventive action.

Research Questions

Research Question 1

Is there a reported change in emotional status at the time of discharge compared to emotional status at the time of admission?

Null hypothesis 1:

There will be no reported difference in the emotional status of participants at the time of discharge compared to emotional status at the time of admission.

Research Question 2

Is there a reported change in behavioral functioning level at the time of discharge compared to behavioral functioning level at the time of admission?

Null hypothesis 2:

There will be no reported change in the behavioral functioning level of participants at the time of discharge compared to behavioral functioning level at the time of admission.

Research Question 3

Is there a reported change in emotional status four to six weeks after discharge compared to emotional status at the time of discharge?

Null hypothesis 3: There will be no reported difference in the emotional status of participants four to six weeks after discharge compared to emotional status at the time of discharge.

Research Question 4

Is there a reported change in behavioral functioning level four to six weeks after discharge compared to behavioral functioning level at the time of discharge?

Null hypothesis 4:

There will be no reported change in the behavioral functioning level of participants four to six weeks after discharge compared to behavioral functioning level at the time of discharge.

Research Question 5

Are circumstances different (support systems, use of addictive substance, living situation, taking prescription medications, and employment status) for those who report a change and those who do not, four to six weeks after discharge?

Null hypothesis 5:

There will be no differences in circumstances (support systems, use of addictive substance, living situation, prescription medications, and employment status) of participants who report a change and those who do not report a change.

CHAPTER THREE

Method and Procedure

The researcher sought to examine the proposed questions using self-inventories completed at the time of admission, discharge and the returned self-inventories after discharge.

Setting

The dual diagnosis program studied in this research project is part of a larger psychiatric center. The unit is a 16-bed, unlocked, voluntary program for the diagnosis and treatment of adult patients with a mental illness who need hospitalization and who have at least one concurrent psychoactive substance use disorder. Initially the intended duration was to be twenty-eight days, however it varies in length. A multimode treatment approach is utilized, including individualized evaluation, psychological testing, individual and group psychotherapy, psychotropic medication, substance abuse education, family evaluation and education, self-help groups, and aftercare planning.

Referrals are accepted from community physicians and community service providers with involvement of a physician. Referrals are to include psychiatric/ medical history and current treatment regime. The model includes an assessment phase, medical treatment, psychotherapy and psycho-educational components. Inclusion criteria for admission to the program are (a) adults with a concurrent psychiatric disorder and a substance use disorder, and (b) a minimum of five days substance free (abuse and/or dependence). Adults in need of psychiatric crisis stabilization or in need of detoxification are not eligible for the program. All participants in the program, and therefore in the study, receive a full psychiatric assessment, comprehensive battery of psychometric tests,

social history, psychological assessment, nursing assessment, leisure assessment, addiction evaluation, and physical examination. The average duration of stay for the eighteen participants in this study was 29.71 days. The program strives to provide a stable alcohol and drug free environment through the practice of random drug testing, both urine and breathalyzer. As part of their treatment all clients in the program are required to complete a set of self-inventories at the time of admission and again just prior to discharge. The same inventories were used for the current research.

Study Design and Participants

The participants in the study included all eligible, consenting clients on the dual diagnosis inpatient unit over a six-month period. Clients who stayed on the unit less than one week or who left the program against medical advice were excluded from the study. Information on a variety of demographic, behavioral, psychosocial, diagnostic, and medical characteristics were obtained from clients' charts, and discharge summaries.

A natural cohort was used in this study. Natural cohort samples have been suggested as the best samples when an appropriate sampling frame is not available to randomly select members of the population of interest. The use of the repeated-measures design reduced the need for random sampling since each participant served as his/her own control. The researcher either contacted clients on a one-to-one basis, face to face, just prior to discharge or contacted clients who had been discharged in the last four to six weeks via telephone. For those individuals who were interested in participating in this research an explanation of the study was provided prior to presenting the client with the informed consent form (see Appendix B) and release of information form (see Appendix C). Individuals were informed that participation was strictly on a volunteer basis.

Participants were required to complete a battery of four self-inventories [Quality of Life Inventory (Fisch, 1994), Beck Depression Inventory-II (Beck, 1996), Symptom Checklist-90-R (Derogatis, 1993), and State-Trait Anxiety Inventory (Spielberger, 1977)], that were mailed out approximately three to four weeks after discharge. An informal questionnaire was also included with the above battery in an attempt to compare differences in support systems, use of addictive substance, living situation, prescription medications, and employment status for those who reported a change and those who did not report a change four to six weeks after discharge (see Appendix D).

For this particular program a standard requirement was that all clients complete this battery of self-inventories at the time of admission (stage I) and just prior to discharge (stage II). These were administered and scored by the psychology assistant in the program. The psychology assistant provided each client with the self-inventories to complete independently. The primary researcher scored the results from all three stages.

Approximately four to six weeks after discharge (stage III), the primary researcher mailed the same self-inventories to those clients who had chosen to volunteer to participate. Included in the package, for individuals who had been contacted face to face, were the four self-inventories that were completed at the time of admission and just prior to discharge, an informal questionnaire, and the follow-up cover letter (see Appendix E). For the individuals who were contacted via telephone the packages included the above plus the informed consent form and the release of information form, and a different follow-up letter (see Appendix F). All packages included a stamped, return envelope. The sample consisted of 18 participants. Two participants did not return the inventories; one was contacted by telephone and informed the researcher that he was

too ill to return the inventories and would be going for further treatment, and the other participant was readmitted to a different program within the same facility.

A total of sixty-two clients were contacted to participate in this study, a total of fifty agreed to participate. However the researcher mailed out only forty-nine packages, because one person who agreed to participate did not complete the program, she left the program against medical advice and was no longer eligible to participate in this research project. Twenty (32%) were contacted by telephone and the remaining forty-two (68%) were approached face-to-face, on a one-to-one basis. Of the clients approached in person thirty-six (86%) agreed to participate and signed the informed consent form and the release of information form. Of the individuals contacted via telephone, fourteen (70%) agreed to participate, and seven (50%) of these returned the signed informed consent form and release of information form along with their completed self-inventories. Only six of these packages were used for this study because one set of data was incomplete. For the individuals contacted in person, eleven of thirty-six (31%) returned the completed self-inventories. Again one of these packages was not included in the data which were analyzed due to a missing set of data. Canada Post returned four (8%) of the packages unopened since the individuals no longer resided at that address. The researcher attempted telephone contact with those four clients but was not successful (table 1).

Table 1: Summary of Number of Individuals Contacted and Numbers of Packages of Data Returned and Analyzed

Contacted via telephone = 20	Contacted face-to-face = 42
Agreed to participate = 14	Agreed to participate =36
Packages mailed out = 14	Packages mailed out = 35 (1 individual did not complete the program)
Number of completed packages returned = 7	Number of completed packages returned = 11
Number of packages returned unopened = 0	Number of packages returned unopened = 4
Number of packages analyzed = 6 (1 set of data missing)	Number of packages analyzed = 10 (1 set of data missing)

Appropriately three weeks after the initial mailing, the researcher attempted telephone contact with the twenty-seven individuals who had not returned their inventories. The researcher was unable to contact two of the twenty-seven due to the fact that the telephone number was no longer in service. Of the remaining twenty-five clients, one was no longer interested in participating and the remaining twenty-four responded that they would complete and return the inventories. The researcher did not receive any of these twenty-four inventories. Upon the second telephone contact one week later, the researcher suggested meeting with each of the individuals to collect the inventories, all participants refused and indicated that they would mail the packages to the researcher. Unfortunately this did not result in an increase in the response rate. The researcher also had staff who worked in the program contact participants by telephone to encourage them to return the inventories, again there was no increase in response rate.

Description of the Self-Inventories Used

State-Trait Anxiety Inventory

The State-Trait Anxiety Inventory (STAI) has been used extensively in research and clinical practice. The S-Anxiety scale (STAI Form Y-1) consists of twenty statements that evaluate how respondents feel “right now, at this moment”. The T-Anxiety scale (STAI Form Y-2) consists of twenty statements that assess how people generally feel. The essential qualities evaluated by the STAI S-Anxiety scale are feelings of apprehension, tension, nervousness, and worry. Scores on the S-Anxiety scale increase in response to physical danger and psychological stress and decrease as a result of relaxation training. The STAI T-Anxiety scale has been used in assessing clinical anxiety

in psychiatric patients. For working adults the reliability coefficient for the S-Anxiety scale was 0.93 and for the T-Anxiety scale was 0.90, the norms table that was used for the present study. The measure of internal consistency and test-retest were done to establish reliability. Stability, as measured by the test-retest coefficients, is relatively high for the STAI T-anxiety scale and low for the S-Anxiety scale, as would be expected for a measure assessing changes in anxiety resulting from situational stress. The internal consistency for both the S-Anxiety and the T-Anxiety scales are quite high as measured by alpha coefficients and item-remainder correlations. The overall median alpha coefficients for the S-Anxiety and T-Anxiety scales are 0.92 and 0.90, respectively, as compared to median alpha of .87 for the S-Anxiety and .89 for T-Anxiety in the normative samples for form X. STAI scores were reported as T-scores. Low scores on the STAI reflect low levels of anxiety.

Individual STAI items needed to meet validity criteria at each stage of the test development process in order to be retained. Spielberger (1983) reported construct validity of the T-Anxiety scale may be seen in comparing the mean scores of the various neuro-psychiatric patients with those of the normal subjects. All but one of the neuro-psychiatric groups has substantially higher T-Anxiety scores than the normal subjects. The T-Anxiety scale was also compared with the Institute for Personality and Ability Testing Anxiety Scale (IPAT), and the Taylor Manifest Anxiety Scale (TMAS). The reported correlations between the T-Anxiety scale, the IPAT, and the TMAS ranged from 0.85 to 0.73. The validity coefficients of individual STAI items for working adults in three age groups ranged from 0.89 to 0.94 (Spielberger, 1983).

Beck Depression Inventory-II

The Beck Depression Inventory-II (BDI-II) is used worldwide to measure depression. Most of the researchers report reliability coefficients on the average higher than 0.75. According to Richter, the average coefficient for the psychiatric samples amounts to 0.88, and the corresponding score for the nonpsychiatric samples is 0.82 (as cited in Richter, Werner, Heerlein, Kraus, & Sauer, 1998). Moran and Lambert (as cited in Richter, et al., 1998) reported that the BDI reflects 6 of the 9 DSM-III criteria well. Only one criterion is not included (agitation) and two are only partially addressed (sleep disturbance and eating behavior).

The Beck Depression Inventory was developed based on clinical observations. The items were chosen to assess the intensity of depression on the basis of the main symptoms of depression. In recent years, several authors have discussed the content validity of the BDI by comparing the BDI items to DSM-III criteria for depression (Richter, et al., 1998). The literature indicates that one reason for the wide spread use of the BDI may be its high content validity. Studies on the concurrent validity with other self-rating scales unanimously report moderate to high correlation coefficients with mean coefficients ranging from 0.58 to 0.79. For the Beck Depression Inventory raw scores were reported, with high scores indicating a greater level of depression.

Quality of Life Inventory

The Quality of Life Inventory (QOLI) is a brief but comprehensive measure of life satisfaction. It can assess outcomes and facilitate treatment planning by revealing areas of satisfaction and dissatisfaction in sixteen areas of life, such as love, work, and health. Respondents in terms of its importance rate each of the sixteen areas to their

overall happiness and in terms of their satisfaction with the area. Reliability coefficients were reported to range from 0.80 to 0.91. QOLI scores are reported in T-scores, with low T-scores suggesting poor quality of life.

According to Fisch (1994) the QOLI is well suited for planning and evaluating medical and psychological treatment. Application usually involves administering the QOLI before, during, and at the conclusion of treatment in order to monitor a client's progress (Fisch, 1994). Researchers and program administrators have successfully used the QOLI as a measure of quality assurance for both outcomes for both medical and psychological treatment based on the various theoretical perspectives for a wide array of physical and psychological disorders. QOLI may be used to evaluate the effectiveness of psychological and medical treatments for virtually any mental or physical disorder based on any theoretical perspective.

Data from two other measures of life satisfaction were collected in order to assess the convergent validity of the QOLI. The QOLI was significantly and positively correlated with Satisfaction with Life Scale and Quality of Life Index ($r = 0.56$, $p < .001$ with Satisfaction with Life Scale; and $r = 0.75$, $p < .001$ with the Quality of Life Index). The stability of QOLI T-scores was examined with the test-retest reliability coefficient from a sample of 55 participants. The retest coefficient of 0.73 was statistically significant ($p < .001$) over a period of about two weeks. The internal consistency reliability (coefficient alpha) computed for the sum of the weighted satisfaction rating was 0.79. The use of the sum of the weighted satisfaction ratings for computing coefficient alpha was believed to provide a good substitute for the use of the QOLI raw

score (Fisch, 1994). High scores reflect greater overall satisfaction with life circumstances.

Symptom Checklist-90-Revised

The Symptom Checklist-90-Revised (SCL-90-R) is a ninety-item self-report symptom inventory measuring multiple clinical syndromes including somatization, obsessive-compulsive disorder, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, psychoticism, and a clinical global severity index. Each item is rated on a five-point scale of distress (0-4) ranging from “Not at All” to “Extremely”. The SCL-90-R is scored and interpreted in terms of 90 primary symptom dimensions and three global indices of distress. The Global Severity Index (GSI) is the best single indicator of the current level or depth of the disorder. It combines the information concerning the number of symptoms reported with the intensity of perceived distress. The author recommends that the GSI should be used in most instances where a single summary measure is called for. The Positive Symptom Distress Index (PSDI) reflects the average level of distress reported for the symptoms that were endorsed. As such, it can be interpreted as a measure of symptom intensity. The Positive Symptom Total (PSI) is simply an indication of the number of symptoms endorsed by the respondent regardless of the level of distress reported. Scores for this inventory are calculated as T-scores. High scores for all three indexes indicate high levels of anxiety and stress. For this study the psychiatric inpatients’ norm tables were used for the admission and discharge data, while the psychiatric outpatients’ norm tables were used for the post-discharge data.

The SCL-90-R is a widely used tool to assess psychopathology and has established reliability, internal consistency and validity (Kush & Sowers, 1996). The coefficients reported by Derogatis, Rickels, and Rock (as cited in Derogatis, 1994) were the results from a sample of 94 heterogeneous psychiatric outpatients who were assessed during an initial evaluation and reassessed one week later, prior to their first therapy session. The majority of coefficients were reported to be between 0.80 and 0.90, which is an appropriate level for measures of symptom construct (as cited in Derogatis, 1994). Horowitz, Rosenberg, Baer, Ureno, and Villasena (as cited in Derogatis, 1994) found test-retest coefficients ranged from 0.68 for somatization to 0.83 for paranoid ideation, even though the elapsed time between assessments was 10 weeks. Internal consistency coefficients for the 9 symptom dimensions were developed from the data for 20 symptomatic volunteers in the Derogatis et al. study, and 103 psychiatric outpatients studied by Horowitz et al. Both groups used the coefficient alpha. Coefficients from both studies ranged from a low of 0.77 for psychoticism to a high of 0.90 for depression in the Derogatis et al., study and from a low of 0.79 for paranoid ideation to a high of 0.90 for depression in the Horowitz et al. study (as cited in Derogatis, 1994).

Researchers have also evaluated the validity of the global indices of the SCL-90-R as a general measure of psychopathology by comparing the indices to the global indices of the Present State Exam (PSE). Across 2 samples, all correlations were statistically significant and ranged from a low of approximately 0.60 to a high of 0.82. Depression dimension of the SCL-90-R was compared to the Beck Depression Inventory (BDI) and the Asberg Rating Scale, correlations were 0.80 and 0.81, respectively (as cited in Derogatis, 1994). Moffett and Radenhausen used the combination of the Beck

Depression Inventory and the Depression and Additional Items subscales of the Symptom Checklist-90-R (SCL-90-R) with a sample that used more than one drug or substance and found high test-retest reliabilities and correlations between the two in assessing depression (as cited in Kush et al., 1996). The existing literature, although limited, suggests the BDI and the SCL-90-R as the most frequently used instrumentation in assessing depressive severity with cocaine abusers/dependents (Kush et al., 1996).

Sample Demographics

The sample in this research study consisted of ten males and eight females. The average age of the participants was 41.8 years ($SD = 7.6$ years), and the average years of education was 12 ($SD = 2.1$ years). Fourteen clients reported that they were unemployed, three reported that they were employed while the remaining one reported that they were retired. A review of client charts and discharge summaries revealed that fifteen were diagnosed with a mood disorder, and three were diagnosed with a thought disorder. According to self-reports alcohol was the substance used by seven of the eighteen individuals and the remaining eleven reported using a combination of drugs and alcohol.

Demographics were not available for the individuals who chose not to participate in this study. The researcher had access to demographics for those who decided to participate but did not return the inventories however; the primary researcher believed that analyzing these demographics would not have contributed any significant information to the present study.

Statistical Procedures/Analysis

Permission to access data from admission (stage I) and prior to discharge (stage II) was obtained from the Program Manager. The data for all three stages were entered

and analyzed using SPSS 10.0 (Statistical Package for the Social Sciences). The group means were calculated for each inventory, for the three different time periods. Paired t-tests were completed on each set of scores. Scores at the time of admission (stage I) were compared to scores at the time of discharge (stage II). Scores at the time of discharge (stage II) were compared to scores four to six weeks after discharge (stage III). Each participant served as his/her own control for all comparisons. When multiple t-tests are calculated on the same data the probability of finding significant results is increased. Therefore, for this study alpha was adjusted to .0034 in order to maintain an overall level of significance at $p < .05$. These findings are discussed in the next chapter.

CHAPTER FOUR

Results

Tests of each of the hypotheses were conducted. Results of each will be presented. Using SPSS-10.0 (Statistical Package for Social Sciences), the mean scores were calculated for all four inventories at three different times (the time of admission, at the time of discharge and again 4 to 6 weeks after discharge). The statistical significance of the difference between these means was examined using paired t-tests.

Tests of Hypotheses

Null hypothesis 1. There will be no reported difference in the emotional status of participants at the time of discharge compared to emotional status at the time of admission.

Null hypothesis 2. There will be no reported change in the behavioral functioning level of participants at the time of discharge compared to behavioral functioning level at the time of admission.

The mean scores for the group were calculated on all four inventories at the time of admission and discharge. The significance of the difference of the means was examined using a paired t-test.

**Table 2: Reported Differences in Emotional Status and Behavioral Functioning
(Admission and Discharge)**

Inventory	Mean score at admission N=18	Mean score at discharge N=18	Significance t=, df=, p<.
* Beck Depression Inventory (raw score)	26.11 SD=9.95	11.06 SD=10.46	t=5.339, df=17, p<.000
* State Anxiety Inventory (t- score)	66.56 SD=9.46	54.75 SD=12.01	t=4.660, df=15, p<.000
* Trait Anxiety Inventory (t-score)	73.44 SD=11.67	60.19 SD=13.75	t=3.461, df=15, p<.003
Quality of Life Inventory (t-score)	29.5 SD=12.28	38.56 SD=10.31	t=-2.561, df=17, p<.020
* Symptom Checklist-90-R Global Severity Index (t-score)	56.56 SD=9.38	45.56 SD=7.74	t=5.345, df=17, p<.000
* Symptom Checklist-90-R Positive Symptom Total (t-score)	58.22 SD=8.30	48.78 SD=10.23	t=4.305, df=17, p<.000
* Symptom Checklist-90-R Positive Symptom Distress Index (t-score)	52.00 SD=8.47	42.28 SD=6.56	t=6.138, df=17, p<.000

Note: * indicates that the results were statistically significant , p<.0034.

The t-tests of the means of the Beck Depression Inventory II, State Anxiety Inventory, Trait Inventory, Global Severity Index, Positive Symptom Total, and Positive Symptom Distress Index reflect a significant difference in scores at the time of admission and discharge. Participants indeed reported lower levels of depression and anxiety at the time of discharge than at the time of admission. As shown in table 2 the t-values for the Beck Depression Inventory II, State Anxiety Inventory, Trait Inventory, Global Severity Index, Positive Symptom Total, and Positive Symptom Distress Index were statistically significant at $p < .0034$ level or lower. The t-tests for the Quality of Life Inventory was not significant at $p < .0034$ but was significant at $p < .020$. Therefore, the first and second null hypotheses were not supported.

Null hypothesis 3. There will be no reported difference in the emotional status of participants four to six weeks after discharge compared to emotional status at the time of discharge.

Null hypothesis 4: There will be no reported change in the behavioral functioning level of participants four to six weeks after discharge compared to behavioral functioning level at the time of discharge.

The mean scores for the group were calculated on all four inventories at the time of discharge and four to six weeks after discharge. The significance of the difference of the means was examined using paired t-tests.

**Table 3: Reported Differences in Emotional Status and Behavioral Functioning
(Discharge and Post-Discharge)**

Inventory	Mean score at discharge N=18	Mean score post- discharge N=18	Significance t=, df=, p<.
Beck Depression Inventory (raw score)	11.06 SD=10.46	13.50 SD=12.81	t=-1.490, df=15, p<.157
State Anxiety Inventory (standard score)	54.75 SD=12.01	53.73 SD=15.33	t=.098, df=12, p<.924
Trait Anxiety Inventory (standard score)	60.19 SD=18.46	58.57 SD=17.73	t=.277, df=11, p<.787
Quality of Life Inventory (t-score)	38.56 SD=10.31	41.25 SD=10.31	t=-.644, df=15, p<.529
Symptom Checklist-90-R Global Severity Index (t-score)	45.56 SD=7.74	43.56 SD=12.30	t=.196, df=15, p<.847
Symptom Checklist-90-R Positive Symptom Total (t-score)	48.78 SD=10.23	47.44 SD=14.7	t=.021, df=15, p<.983
Symptom Checklist-90-R Positive Symptom Distress Index (t-score)	42.28 SD=6.56	41.38 SD=8.56	t=-.187, df=15, p<.854

The t-test of the means of the Beck Depression Inventory II, State Anxiety Inventory, Trait Inventory, Quality of Life Inventory, Global Severity Index, Positive Symptom Total, and Positive Symptom Distress Index indicated no significant difference from discharge to post-discharge. Participants reported a slight increase in the level of depression on the Beck Depression Inventory II and a slight increase in life satisfaction on the Quality of Life Inventory at the post-discharge stage compared to the time of discharge. These differences, however, were not statistically significant. Participants reported a slight decrease in the level of anxiety at the post-discharge stage compared to the discharge stage, again these difference were not statistically significant at $p < .0034$. Therefore, null hypotheses three and four were supported.

Calculating multiple t-test increases the probability of finding significant results. However, the results found when running multiple t-tests for this set of data were significant at the .003-level and at the .00-level for six out of the seven tests, suggesting the results are indeed statistically significant.

Null hypothesis 5. There will be no differences in circumstances (support systems, use of addictive substance, living situation, prescription medications, and employment status) of participants who reported a change and those who did not report a change.

The researcher had planned to analyze these data to determine if there was a relationship between reported sustained emotional status and responses to these questions. The same analysis would have been completed to determine if there was a relationship between behavioral functioning level and responses to the above questions. There was not enough data to analyze due to a less than 50% return rate of the questionnaires.

CHAPTER FIVE

Discussion and Conclusions

Clients who struggle with both addictions and mental health problems often face a treatment quandary. That quandary lies in the fact that some mental health treatment programs reject clients who use alcohol or illicit drugs. At the same time, some addiction programs demand that clients be off all medication, including psychiatric medication, before receiving treatment (Drake, 1998).

This study investigated the efficacy of a dual diagnosis recovery program for adults. The unit was a 16-bed, unlocked, voluntary program for the diagnosis and treatment of adult patients with an acute axis I psychiatric diagnosis who need hospitalization and who have at least one concurrent psychoactive substance use disorder. Initially the intended duration was to be twenty-eight days however it varied somewhat. A multimode treatment approach was utilized, including individualized evaluation, psychological testing, individual and group psychotherapy, psychotropic medication, substance abuse education, family evaluation and education, self-help groups, and aftercare planning. The purpose of the study was to determine if patients reported sustained emotional status and sustained behavioral functioning level four to six weeks after discharge as compared to those reported at the time of discharge. The researcher first determined if there was any reported improvement in the clients' emotional status and behavioral functioning level from the time of admission to the time of discharge. Self-inventories were completed at the time of admission and discharge; the same inventories were mailed out to participants four to six weeks after discharge.

It is well documented in the literature that substantial numbers of individuals with a severe mental illness suffer from a co-occurring substance use disorder. For example the Epidemiological Catchment Area (ECA) study reported that the rate of substance use disorders among persons with mental illness is approximately three times that of the general population (Regier et al., 1990). Improving treatments for persons with co-occurring substance abuse and mental illness seems clearly warranted, given the staggering occurrence of this problem. Findings of the ECA study indicated substantial undertreatment for substance use problems and perhaps even undertreatment of psychiatric disorders. These findings are consistent with other studies demonstrating poor compliance, among other barriers, in caring for dually diagnosed mentally ill clients.

Other literature indicates that rates of substance use disorder among those with a mental illness are reported to be as high as fifty percent. The health care system is challenged as how to best serve or meet the needs of this population. There is a lack of programs that are available to address both disorders at the same time. In reviewing the literature and interviewing staff that work in this type of program in central Alberta the researcher discovered that this particular dual diagnosis program is the only inpatient program in this province.

Treatment for clients with dual diagnoses is challenging and difficult. Often the result is failure at therapeutic engagement and/or relapse to substance use (Onken et al., 1990). Some clients can be motivated to seek help and utilize 12 step groups, therapy, medication, and other treatment resources, but many clients are treatment resistant. They may comply while being hospitalized but go back to substance use and avoid all mental health services upon discharge (Brady et al., 1996). One plausible explanation for

compliance while in hospital is that hospitalization stabilizes patients, making them more amenable to treatment (Bogenschutz et al., 1998).

Summary of Findings

The t-tests of differences of the means provided support to reject the null hypotheses that there would be no reported difference in emotional status and behavioral functioning level from the time of admission to the time of discharge. Participants reported that they were experiencing lower levels of anxiety and depression at the time of discharge. One would expect that clients would report that they were less depressed and experiencing low levels of anxiety after receiving inpatient treatment for an average of twenty-nine days.

The literature indicates that one of the major difficulties in treating dual diagnosis is in engaging the clients in treatment. Bogenschutz and Siegfried (1998) compared engagement in treatment for clients referred from outpatient programs to those referred from inpatient programs. Engagement was significantly higher for those referred by an inpatient referral. One plausible explanation was that hospitalization stabilizes patients, making them more amenable to outpatient treatment. Other explanations as to why inpatients respond to treatment is that they do not have to worry about where to live, their mental illness is probably being controlled with medication, and that they have a positive peer group around them. These factors may partially explain the significant improvement that was reported by the clients in this research study.

The literature indicates that factors which appear to help mentally ill patients in the recovery process (Harding et al., 1987) have been similar to factors that contribute to recovery from addiction: acceptance of the illness, compliance with treatment, using help

to learn new coping skills, and willingness to actively collaborate in treatment. In addition, both the psychiatric and the addiction models describe a similar process of recovery, with phases of acute stabilization, engagement, prolonged stabilization (maintenance), and rehabilitation. For both illnesses, engaging the client in ongoing treatment is essential in order for recovery to continue. It is not uncommon for clients who are addicted to chemicals to experience repeated cycles of detoxification and relapse. Similarly, mentally ill patients may have prolonged cycles of “revolving-door” admissions and difficulties with medication compliance before acknowledging the need for ongoing treatment (Lamb, 1982). In the integrated model, medication and Alcohol Anonymous attendance are parallel treatments for parallel diseases. A significant challenge may be the ongoing compliance with recommended treatment after discharge. Factors that may affect compliance may include return to the an environment where support may be limited and where they may encounter or be in contact with stimuli that have resulted in one using a substance.

The t-test for the difference of means for the periods of discharge and post-discharge support hypotheses three and four in that there is no reported change in emotional status and behavioral functioning levels from discharge to post-discharge. Most of the research indicates that individuals with dual disorders have difficulties when they are discharged from an inpatient treatment program.

Results of the present study indicate that clients diagnosed with mental illness and substance use disorder and who had completed treatment in a dual diagnosis recovery program showed significant improvement in emotional status and behavioral functioning level from the time of admission to the time of discharge. These findings support the

already existing literature, which indicates that persons with dual diagnoses respond to treatment, provided in an inpatient setting. Results also indicate that clients sustained emotional status and behavioral functioning level from the time of discharge to post-discharge.

A review of clients' charts ($n = 18$) revealed that all individuals reported that they had at some point in time received treatment for their substance disorder in a traditional substance abuse program. More than half reported that they had actually attended more than one program.

As mentioned in chapter 2, the need for effective treatment for a person with a dual diagnosis is of concern for the health field. The literature indicates that the increase in interest in treatment of dual diagnosis may be attributed to the fact that individuals with mental illness and substance use disorders are being seen in emergency rooms more often than in the past. Another consideration may be that this population is so resistant to treatment, so they are ending up back in the doors again. Whatever the reason, the need for effective treatment remains to challenge the health care system.

Limitations and Implications

One of the limitations in this study was the small sample size. This impedes the ability to generalize the findings of this study to other studies and programs. A second limitation was the typical, poor return rate of the mail out questionnaires. A caveat regarding this study is that the assessments of emotional status and behavioral functioning level were based only on self-reports. As well, the follow-up time was also short in duration. It would be interesting and also valuable to complete the follow-up at different time intervals; this may be an opportunity for further research. A time period of

six months has been proposed as a minimal interval of time to discern stable remission, but it may not be sufficient elapsed time for this population (Drake et al., 1996).

Another limitation of the study was the population in this study included more than one category of mental illness and more than one category of substance use disorder (i.e. alcohol and different types of drugs). Again this limits the ability to generalize the findings to a specific population. This could also lead to another research study.

Conclusions

The findings of this study provide information to this specific treatment program. The effect of the treatment in this program was indeed positive. Those clients who completed the program reported sustained emotional status and behavioral functioning level four to six weeks after being discharged.

Some clinicians in the health field argue that the concept of providing intensive case management on an outpatient basis is not a cost efficient means of providing services for the dually diagnosed client. However intensive case management provided on an outpatient basis might be a means of providing quality care for this population. Quality of life issues may be a luxury that society cannot afford. Society as a whole and the service providers in the health field cannot afford to provide a service that does not ensure quality of life. The argument has been made that it would be more effective to have the dually diagnosed client live in the community without intensive support and admit them into an inpatient program for treatment when necessary. The argument is that the funding would be able to address the needs of more people.

It is important for clinical practice and research that further studies are done. The best treatment and approaches for this challenging population are a question that is

frequently asked. The results of this study are encouraging, even with all of the limitations that the researcher has listed. However, results do indicate the need for additional research in this area.

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Appendix A-Definitions and Criteria

Criteria for Substance dependence: A maladaptive pattern of substance use, leading to clinically significant impairment or distress, as manifested by three (or more) of the following, occurring at any time in the same 12-month period:

- 1) tolerance, as defined by either of the following:
 - a) a need for markedly increased amounts of the substance to achieve intoxication or desired effect
 - b) markedly diminished effect with continued use of the same amount of the drug
- 2) withdrawal, as manifested by either of the following:
 - a) the characteristic withdrawal syndrome for the substance (refer to Criteria A and B sets for Withdrawal from the specific substances)
 - b) the same (or closely related) substance is taken to relieve or avoid withdrawal symptoms
- 3) the substance is often taken in larger amounts or over a longer period than was intended
- 4) there is a persistent desire or unsuccessful efforts to cut down or control substance use
- 5) a great deal of time is spent in activities necessary to obtain the substance (e.g., visiting multiple doctors or driving long distances), use of the substance (e.g., chain-smoking), or recover from its effects

- 6) important social, occupational, or recreational activities are given up or reduced because of substance use
- 7) the substance use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the substance (e.g., current cocaine use despite recognition of cocaine-induced depression, or continued drinking despite recognition that an ulcer was made worse by alcohol consumption) (p. 181)

Criteria for substance abuse

A. A maladaptive pattern of substance use leading to clinically significant impairment or distress, as manifested by one (or more) of the following, occurring within a 12-month period:

- 1) recurrent substance use resulting in a failure to fulfill major role obligations at work, school, or home (e.g., repeated absences or poor work performance related to substance use; substance-related absences, suspensions, or expulsions from school; neglect of children or household)
- 2) recurrent substance use in situations in which it is physically hazardous (e.g., driving an automobile or operating a machine when impaired by substance use)
- 3) recurrent substance-related legal problems (e.g., arrest for substance-related disorderly conduct)
- 4) continued substance use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of the substance

(e.g., arguments with spouse about consequences of intoxication, physical fights)

B. The symptoms have never met the criteria for Substance Dependence for this class of substance.

Substance use and substance abuse could include alcohol, amphetamine, cannabis, cocaine, hallucinogen, inhalants, opioid, phencyclidine, sedative, hypnotic or anxiolytic (pp. 182-183).

The definition of mental disorder is a clinically significant behavioral or psychological syndrome or pattern that occurs in an individual and that is associated with present distress (e.g., painful symptom) or disability (i.e., impairment in one or more important areas of functioning) or with a significantly increased risk of suffering death, pain, disability, or an important loss of freedom. Whatever its original cause, it must currently be considered a manifestation of a behavioral, psychological, or biological dysfunctional the individual (p. xxi).

Appendix B- Informed Consent Form

My name is (researcher's name), I am a Masters' student in the Educational Psychology Program at the University of Alberta and I also work at (name of facility). I am seeking volunteers for my study, and am hoping you will consider being one of those volunteers. The purpose of the study is to monitor clients' emotional status and behavioral functioning level after discharge from the (name of program). If you decide to participate in this study, here is what would happen:

1. I will mail self-inventories, the same ones you completed at the time of admission and discharge, to you 4 to 6 weeks after discharge. I will include a questionnaire about your current situation.
2. I would like you to complete the inventories and mail them back to me within one week. I will include a self addressed stamped envelope.
3. After I have collected all the data, I will analyze the results. A copy of the completed thesis will be given to the (name of program), which you will be able to access if you so wish.

Clinical monitoring occurs while you _____ (client's name) are in the program, this study will provide follow-up monitoring 4 to 6 weeks after discharge. I would like to access this data for research and publication purposes. Clients' name and location will not be used. Your decision to participate or not to participate in this research will in no way adversely affect your treatment at the hospital. The primary researcher, (name), and co-investigators, (name, chartered psychologist) and (name, psychiatrist) will be involved in the research. Dr. (name) has been informed of this research.

Names will be replaced by codes, and only primary researchers will know identifying information. Original data will be destroyed within 10 years of the termination of the study. Research participation may be withdrawn at any time and the primary researcher will be pleased to share the findings with you at the completion of this project.

The results of this research will be of interest to clients, family members, staff, administrators and other facilities providing treatment to individuals with concurrent disorder (mental illness and substance disorder). The information gathered would likely provide insight into how to provide effective programming and treatment in the area of dual diagnosis.

Your signature indicates that you have read and understand the information provided above, that you willingly agree to participate, and that you understand you may withdraw from the study at any time without penalty.

Signature of Participant _____ Date _____

Signature of Witness _____ Date _____

Appendix C- Release of Information for the Purpose of Research

I, _____ (participant's name) having received treatment in (name of program) hereby consent to the release of information on my chart to (researcher's name), for the purpose of research. I also give her permission to attend some of my therapy sessions as an observer, for the purpose of gathering information. I understand this information will be kept confidential and that no identifying information will be revealed in any of the research results. I understand she will not need to make any copies of documents on my chart. She may have access for a period not to exceed six (6) months from the date of this document.

Signature: _____

Date: _____

Witness: _____

Date: _____

Appendix D- Questionnaire

1.

Are you currently employed?
2.

Are you currently taking any prescription medication?
3.

Are you receiving support from mental health in your community?
4.

Are you receiving support from any family or friends?
5.

Are you currently using any addictive substances (i.e. alcohol or illegal drugs)?
6.

Have you used any addictive substances (i.e. alcohol or illegal drugs) since your discharge?
7.

What are your current living arrangements?

Appendix E-Cover Letter (Participants contacted in person)

Address

Dear Participant,

This is the follow-up package for the research that you agreed to participate in at the Hospital. Enclosed are the self-report questionnaires that I would like you to complete and return to me within one week. As explained at the time you consented to participate in this research, the enclosed questionnaires are the same as the ones that you completed at the time of admission and discharge. I have also enclosed a short list of questions. The information you share with me will be confidential. Your name and the location of the research will not be used. Names will be replaced by codes, and only primary researchers will know all identifying information. Original data will be destroyed within 10 years of the termination of the study. I have enclosed a self addressed stamped envelope for you to return the completed questionnaires to me.

If you have further questions please feel free to contact me at (telephone number).

Again I would like to thank you for agreeing to participate in this study and for taking the time to complete the enclosed forms.

Yours Sincerely

Jackie Comeau
(Primary researcher)

Appendix F-Cover Letter (Participants contacted by telephone)

Address

Dear Participant,

This is the follow-up package for the research that you agreed to participate in at the Hospital. I have included an informed consent and a release of information form for you to complete and return. Enclosed are the self-report questionnaires that I would like you to complete and return to me within one week. As explained at the time you consented to participate in this research, the enclosed questionnaires are the same as the ones that you completed at the time of admission and discharge. I have also enclosed a short list of questions. The information you share with me will be confidential. Your name and the location of the research will not be used. Names will be replaced by codes, and only primary researchers will know all identifying information. Original data will be destroyed within 10 years of the termination of the study. I have enclosed a self addressed stamped envelope for you to return the completed questionnaires to me.

If you have further questions please feel free to contact me at (telephone number).

Again I would like to thank you for agreeing to participate in this study and for taking the time to complete the enclosed forms.

Yours Sincerely

Jackie Comeau
(Primary researcher)

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